



[4910-13]

## **DEPARTMENT OF TRANSPORTATION**

### **Federal Aviation Administration**

#### **Aviation Rulemaking Advisory Committee Mixed Phase and Ice Crystal Icing**

#### **Envelope (Deep Convective Clouds) Requirements – Revision of Appendix D to 14**

#### **CFR Part 33 - New Task**

**AGENCY:** Federal Aviation Administration (FAA), DOT.

**ACTION:** Notice of a new task assignment for the Aviation Rulemaking Advisory Committee (ARAC) and solicitation of membership applicants.

**SUMMARY:** The FAA assigned the Aviation Rulemaking Advisory Committee (ARAC) a new task to provide recommendations on ice crystal icing (ICI) requirements. Because more extensive ICI data is available today, the FAA needs to determine if current regulations accurately reflect the existing ICI environment. This notice informs the public of the new ARAC activity and solicits membership for the new Ice Crystal Icing Working Group (ICIWG).

**FOR FURTHER INFORMATION CONTACT:** Alan Strom, Federal Aviation Administration, Rulemaking and Policy Branch, AIR-6A1, Engine & Propeller Standards Branch, Aircraft Certification Service, 1200 District Avenue, Burlington, MA 01803-9997, email [alan.strom@faa.gov](mailto:alan.strom@faa.gov), phone (781) 238-7143, facsimile (781) 238-7199.

#### **SUPPLEMENTARY INFORMATION:**

##### **ARAC Acceptance of Task**

At the September 14, 2017, ARAC meeting, the FAA assigned and ARAC accepted this task. ARAC designated the task to the Transport Airplane and Engine

(TAE) Subcommittee to establish the ICIWG. The working group will support the ARAC, through the TAE Subcommittee, and provide advice and recommendations on the assigned task. The TAE Subcommittee will send the recommendation report to the ARAC for review and acceptance. After ARAC accepts the recommendation report, it will send the recommendation report to the FAA.

## **Background**

The FAA established the ARAC to provide information, advice, and recommendations on aviation related issues that could result in rulemaking to the FAA Administrator, through the Associate Administrator of Aviation Safety. This includes obtaining advice and recommendations on the FAA's commitments to harmonize Title 14 of the Code of Federal Regulations (14 CFR) with the European Aviation Safety Agency (EASA).

Amendment 33-34, published in the Federal Register (79 FR 65507, November 4, 2014), revised airplane and engine certification requirements in supercooled large drop, mixed phase, and ICI conditions. Appendix D to part 33 - Mixed Phase and ICI Envelope (Deep Convective Clouds) was added to depict the ICI envelope derived from adiabatic lapse calculations based on a theoretical atmospheric model. The FAA adopted these requirements, in part, as a response to the National Transportation Safety Board safety recommendations A-96-54 and A-96-56. Since that time, the FAA in concert with other Federal agencies, civil airworthiness agencies, and industry sponsored three separate flight test campaigns to gather detailed ICI environmental test data. This flight test data has enabled a more accurate representation of ICI threat to aircraft turbojet, turbofan, and turboprop engines encountered in service. The objective of the ARAC task

is to evaluate whether current engine or airplane air data probe responses to ICI warrant the use of an environmental envelope different from those existing in appendix D to part 33.

### **The Task**

The ICIWG will provide advice and recommendations to the ARAC through the TAE Subcommittee on appendix D to part 33, and harmonization of § 33.68 *Induction system icing* requirements as follows:

1. Evaluate recent ICI environment data obtained from both government and industry to determine whether flight testing data supports the existing appendix D envelope.
2. Evaluate the results carried out in task 1 and recommend changes to the existing appendix D envelope, as applicable.
3. Compare available service data on air data probes from both government and industry probes on appendix D, including any changes proposed in task 2. Determine whether engine or aircraft air data probe responses warrant the use of a different environmental envelope from those proposed in task 2, or to the existing appendix D envelope.
4. Evaluate the results from task 3 and recommend ICI boundaries relevant to aircraft and engine air data probes. If the working group proposes a different envelope for aircraft and engine air data probes, recommend if these should be included in the existing appendix D, or create a new appendix to part 33.

5. Identify non-harmonized FAA or EASA ICI regulations or guidance. If the working group finds significant differences that impact safety, propose changes to increase harmonization.

6. Recommend changes to the advisory circular, AC 20-147A, *Turbojet, Turboprop, Turboshift, and Turbofan Engine Induction System Icing and Ice Ingestion*, based on task 1 through 5 results.

7. Assist the FAA in determining the initial qualitative and quantitative costs, and benefits that may result from the working group's recommendations.

8. Develop a recommendations report containing the results of tasks 1 through 6. The report should document both majority and dissenting positions on the findings, the rationale for each position, and reasons for disagreement.

### **Schedule**

The recommendation report should be submitted to the FAA for review and acceptance no later than 24 months from the first ICIWG meeting. The ICIWG will remain in existence for 30 months from the first ICIWG meeting.

### **Working Group Activity**

The ICIWG must comply with the procedures adopted by the ARAC as follows:

1. Conduct a review and analysis of the assigned tasks and any other related materials or documents.
2. Draft and submit a work plan for completion of the task, including the rationale supporting such a plan for consideration by the TAE Subcommittee.
3. Provide a status report at each TAE Subcommittee meeting.

4. Draft and submit the recommendation report based on the review and analysis of the assigned tasks.

5. Present the recommendation report at the TAE Subcommittee meeting.

### **Roles and Responsibilities**

The ICIWG will be comprised of technical experts having an interest in the assigned task. A working group member need not be a member representative of the ARAC or the TAE Subcommittee. The FAA would like a wide range of members to ensure all aspects of the tasks are considered in development of the recommendations. The provisions of the August 13, 2014, Office of Management and Budget guidance, *“Revised Guidance on Appointment of Lobbyists to Federal Advisory Committees, Boards, and Commissions”* (79 FR 47482), continues the ban on registered lobbyists participating on Agency Boards and Commissions if participating in their “individual capacity.” The revised guidance now allows registered lobbyists to participate on Agency Boards and Commissions in a “representative capacity” for the “express purpose of providing a committee with the views of a nongovernmental entity, a recognizable group of persons or nongovernmental entities (an industry, sector, labor unions, or environmental groups, etc.) or state or local government.” (For further information see Lobbying Disclosure Act of 1995 (LDA) as amended, 2 U.S.C 1603, 1604, and 1605.)

If you wish to become a member of the ICIWG, write the person listed under the caption **“FOR FURTHER INFORMATION CONTACT”** expressing that desire.

Describe your interest in the task and state the expertise you would bring to the working group. The FAA must receive all requests by **[INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER.]** The ARAC, through

the TAE Subcommittee, and the FAA will review the requests and advise you whether or not your request is approved.

The members of the ICIWG must actively participate in the working group, attend all meetings, and provide written comments when requested. The members must devote the resources necessary to support the working group in meeting any assigned deadlines. Members must keep management and those they may represent advised of working group activities and decisions to ensure the proposed technical solutions do not conflict with the position of those represented. Once the working group has begun deliberations, members will not be added or substituted without the approval of the ARAC Chair, the TAE Subcommittee Chair, the Working Group Chair, and the FAA, including the Designated Federal Officer.

The Secretary of Transportation determined the formation and use of the ARAC is necessary and in the public interest in connection with the performance of duties imposed on the FAA by law.

### **Confidential Information**

All final work products submitted to ARAC are public documents. Therefore, it should not contain any non-public proprietary, privileged, business, commercial, and other sensitive information (collectively, Confidential Information) that the working group members would not want to be publicly available. With respect to working groups, there may be instances where members will share Commercial Information within the working group for purposes of completing an assigned task. Members must not disclose to any third party, or use for any purposes other than the assigned task, any and all Confidential Information disclosed to one party by the other party, without the prior

written consent of the party whose Confidential Information is being disclosed. All parties must treat the Confidential Information of the disclosing party as it would treat its own Confidential Information, but in no event shall it use less than a reasonable degree of care. If any Confidential Information is shared with the FAA representative on a working group, it must be properly marked in accordance with the Office of Rulemaking Committee Manual, ARM-001-15.

Issued in Washington, DC, on January 11, 2018.

Lirio Liu,  
Designated Federal Officer,  
Aviation Rulemaking Advisory Committee.

[FR Doc. 2018-00817 Filed: 1/17/2018 8:45 am; Publication Date: 1/18/2018]